Cisco IOS Release 12.0(1)XB for Cisco 800 Series Routers

Feature Summary

Cisco IOS Release 12.0(1)XB provides software support for the Cisco 800 series routers. This document describes the new and modified commands specific to these routers.

Benefits

The Cisco 800 series routers connect small professional offices or telecommuters over Integrated Services Digital Network (ISDN) Basic Rate Interface (BRI) lines to the Internet and corporate networks. The routers provide bridging and multiprotocol routing capability between LAN and WAN ports.

Platforms

Cisco IOS Release 12.0(1)XB is supported on these platforms:

- Cisco 801 router
- Cisco 802 router
- Cisco 803 router
- Cisco 804 router

Command Reference

This section documents new and modified commands specific to the Cisco 800 series routers. All other commands are documented in the Cisco IOS Release 12.0 command references.

- **call-waiting**
- **destination-pattern**
- **dial-peer voice pots**
- **isdn autodetect**
- **isdn call**
- **isdn conference-code**
- **isdn disconnect**
- **isdn spid1**
- **isdn spid2**
- **isdn transfer-code**
- **isdn voice-priority**
- **port**
- **pots country**
- **pots dialing-method**
- **pots disconnect-supervision**
- **pots disconnect-time**
- **pots distinctive-ring-guard-time**
- **pots encoding**
- **pots line-type**
- **pots ringing-freq**
- **pots silence-time**
- **pots tone-source**
- **ring**
- **show dial-peer voice**
- **show pots status**

call-waiting

Use the **call-waiting** interface configuration command to enable call waiting. Use the **no** form of this command to disable call waiting.

call-waiting
no call-waiting

Syntax Description

This command has no arguments or keywords.

Default

Call waiting is enabled.

Command Mode

Interface configuration

Usage Guidelines

You must specify this command when creating a dial peer. This command will not work if it is not specified within the context of a dial peer. For information on creating a dial peer, refer to the *Cisco 800 Series Routers Software Configuration Guide*.

Example

The following example disables call waiting:

```
router (config-dial-peer)# no call-waiting
```

Related Commands

destination-pattern
dial-peer voice pots
port
ring
show dial-peer voice

destination-pattern

Use the **destination-pattern** interface configuration command to specify the ISDN directory number for the telephone interface. Use the **no** form of this command to disable the specified ISDN directory number.

destination-pattern *ldn*
no destination-pattern

Syntax Description

ldn	Local ISDN directory number assigned by your telephone service provider.

Default

A default ISDN directory number is not defined for this interface.

Command Mode

Interface configuration

Usage Guidelines

You must specify this command when creating a dial peer. This command will not work if it is not specified within the context of a dial peer. For information on creating a dial peer, refer to the *Cisco 800 Series Routers Software Configuration Guide*.

Do not specify an area code with the local ISDN directory number.

Example

The following example specifies 555-1111 as the local ISDN directory number:

```
router (config-dial-peer)# destination-pattern 5551111
```

Related Commands

dial-peer voice pots
no call-waiting
port
ring
show dial-peer voice

dial-peer voice pots

Use the **dial-peer voice pots** global configuration command to create a dial peer that determines how incoming calls are routed to the telephone ports. Use the **no** form of this command to delete the specified dial peer.

dial-peer voice *tag* **pots**
no dial-peer voice *tag* **pots**

Syntax Description

tag	Tag number from 1 through 6.
pots	Plain old telephone service (POTS). Create a dial peer for the telephone interface.

Default

Default dial peers are not defined.

Command Mode

Global configuration

Usage Guidelines

You can create a maximum of six dial peers. Within this, there are no restrictions on the number of dial peers you can create per telephone port. For example, you can create six dial peers for telephone port 1 and none on telephone port 2.

Example

The following example creates dial peer 1:

```
router (config)# dial-peer voice 1 pots
router (config-dial-peer)#
```

Related Commands

destination-pattern
no call-waiting
port
ring
show dial-peer voice pots

isdn autodetect

Use the **isdn autodetect** interface configuration command to enable the automatic detection of ISDN service profile identifiers (SPIDs) and switch type. Use the **no** form of this command to disable the automatic detection of ISDN SPIDs and switch type.

isdn autodetect
no isdn autodetect

Syntax Description

This command has no arguments or keywords.

Default

The automatic detection of ISDN SPIDs and switch type is disabled.

Command Mode

Interface configuration

Usage Guidelines

This command applies to North America only. If you are outside of North America, you must use the **isdn switch-type** *switch-type* interface configuration command to specify the ISDN switch type.

Example

The following example enables the automatic detection of ISDN SPIDs and switch type:

```
router (config-if)# isdn autodetect
```

Related Commands

isdn spid1
isdn spid2

isdn call

Use the **isdn call** privileged EXEC command to make an ISDN data call.

isdn call interface *interface dialing-string* [**speed 56** | **64**]

Syntax Description

interface	Interface through which ISDN data call is made.
interface	Interface number.
dialing-string	Telephone number used for making ISDN data call.
speed	(Optional) Line speed (56 or 64 kbps) used for making ISDN data call.

Default

The default B-channel speed is 64 kbps.

Command Mode

Privileged EXEC

Usage Guidelines

You can use the **isdn call** command to test your dial-on-demand routing (DDR) configuration. You can also use this command to verify the dialing string and speed without having to know the IP address of the remote router or without configuring a dialer map or string.

Example

The following example makes an ISDN data call through interface bri 0 to 555-1111 and at a line speed of 56 kbps:

```
router# isdn call interface bri 0 5551111 speed 56
```

Related Commands

isdn disconnect

isdn conference-code

Use the **isdn conference-code** interface configuration command to activate three-way call conferencing. Use the **no** form of this command to disable three-way call conferencing.

isdn conference-code *range*
no isdn conference-code

Syntax Description

range	Number from 0 through 999.

Default

The default code is 60.

Command Mode

Interface configuration

Usage Guidelines

Use this command if your ISDN line is connected to a National ISDN-1 (NI1) or a Northern Telecom (Nortel) DMS-100 Custom switch. Your telephone service provider should provide an ISDN conference code when you order three-way call conferencing.

Example

The following example specifies 61 as the ISDN conference code:

```
router (config-if)# isdn conference-code 61
```

isdn disconnect

Use the **isdn disconnect** privileged EXEC command to disconnect an ISDN data call without bringing down the interface.

isdn disconnect interface *interface* {**b1** | **b2** | **all**}

Syntax Description

interface	Interface through which ISDN data call should be disconnected.
interface	Interface type and number, for example, bri 0.
b1	B channel 1.
b2	B channel 2.
all	B channels 1 and 2.

Default

A default interface is not defined.

Command Mode

Privileged EXEC

Usage Guidelines

You can use the **isdn disconnect** command to disconnect any ongoing data calls placed manually or caused by DDR.

Example

The following example disconnects an ISDN data call through interface bri 0 and B channel 1:

```
router# isdn disconnect interface bri 0 b1
```

Related Commands

isdn call

isdn spid1

Use the **isdn spid1** interface configuration command to associate up to three ISDN local directory numbers provided by your telephone service provider to the first SPID. Use the **no** form of this command to disable the first SPID.

isdn spid1 *spid-number ldn* [*ldn*] [*ldn*]
no isdn spid1 *spid-number ldn* [*ldn*] [*ldn*]

Syntax Description

spid-number	Number that identifies the ISDN B channel. The SPID format is generally an ISDN telephone number with numbers added to it, such as 40855522220101.
ldn	ISDN local directory number. You can optionally specify second and third LDNs.

Default

A default SPID number and ISDN local directory numbers are not defined.

Command Mode

Interface configuration

Usage Guidelines

This command applies only to North America. If you want the SPID to be automatically detected, specify 0 for the *spid-number* argument.

Example

The following example shows how to specify that the SPID should be automatically detected, the primary ISDN local directory number is 4085551111, and the secondary number is 4085552222:

```
router (config-if)# isdn spid1 0 4085551111 4085552222
```

Related Commands

isdn spid2
isdn autodetect

isdn spid2

Use the **isdn spid2** interface configuration command to associate up to three ISDN local directory numbers provided by your telephone service provider to the second SPID. Use the **no** form of this command to disable the second SPID.

isdn spid2 *spid-number ldn* [*ldn*] [*ldn*]
no isdn spid2 *spid-number ldn* [*ldn*] [*ldn*]

Syntax Description

spid-number	Number that identifies the ISDN B channel. The SPID format is generally an ISDN telephone number with numbers added to it, such as 40855522220101.
ldn	ISDN local directory number. You can optionally specify second and third LDNs.

Default

A default SPID number and ISDN local directory numbers are not defined.

Command Mode

Interface configuration

Usage Guidelines

This command applies only to North America. If you want the SPID to be automatically detected, specify 0 for the *spid-number* variable.

Example

The following example specifies that the SPID should be automatically detected, that the primary ISDN local directory number is 4085551111, and that the secondary number is 4085552222:

```
router (config-if)# isdn spid2 0 4085551111 4085552222
```

Related Commands

isdn spid1
isdn autodetect

isdn transfer-code

Use the **isdn transfer-code** interface configuration command to activate call transferring. Use the **no** form of this command to disable call transferring.

isdn transfer-code *range*
no isdn transfer-code

Syntax Description

range	Number from 0 to 999.

Default

The default code is 61.

Command Mode

Interface configuration

Usage Guidelines

Use this command if your ISDN line is connected to a NI1 or a Nortel DMS-100 Custom switch. Your telephone service provider should issue an ISDN transfer code when you order call transferring.

Example

The following example specifies 62 as the ISDN transfer code:

```
router (config-if)# isdn transfer-code 62
```

isdn voice-priority

Use the **isdn voice-priority** interface configuration command to control the priority of data and voice calls for the telephones, fax machines, and modems connected to the router telephone ports. If an ISDN circuit endpoint is busy with a data call or calls and either a voice call comes in (incoming) or you attempt to place a voice call (outgoing), the data call is handled according to the setting of this command. Use the **no** form of this command to disable a specified ISDN voice priority setting and to use the default setting.

isdn voice-priority *local-directory-number* {**in** | **out**} {**always** | **conditional** | **off**}
no isdn voice-priority *local-directory-number*

Syntax Description

local-directory-number	Local ISDN directory number assigned by your telephone service provider.
in	Incoming voice call.
out	Outgoing voice call.
always	Always bump a data call for a voice call.
conditional	Bump a data call only if there is more than one call to the same destination.
off	Never bump a data call for a voice call.

Default

A data call is always bumped for an incoming or outgoing voice call.

Command Mode

Interface configuration

Usage Guidelines

If you are in North America and have multiple ISDN directory numbers associated with a SPID, the outgoing voice priority that you set for any of these directory numbers applies to the other directory numbers. For example, if you enter the following commands, the outgoing voice priority for all directory numbers specified in the **isdn spid1** command is set to conditional:

```
router (config-if)# isdn spid1 0 4085551111 4085552222 4085553333
router (config-if)# isdn voice-priority 5551111 out conditional
```

The setting of the **pots dialing-method** command affects when you hear a busy signal in the following situation:

- A data call cannot be bumped.
- You are trying to make an outgoing call.

If the setting is **overlap**, you hear a busy signal when you pick up the handset. If the setting is **enblock**, you initially hear a dial tone and then a busy signal.

Example

The following example specifies that a data call for the specified ISDN directory number never be bumped for an incoming or an outgoing voice call:

```
router (config-if)# isdn voice-priority 555-1111 in off
router (config-if)# isdn voice-priority 555-1111 out off
```

Related Commands

isdn spid1
isdn spid2
pots dialing-method

port

Use the **port** interface configuration command to specify a telephone port to which an incoming voice call is routed. Use the **no** form of this command to disable the specified port.

port *port-number*
no port *port-number*

Syntax Description

port-number	Telephone port 1 or 2. To determine the telephone port number, see the telephone port markings on the router back panel.

Default

The default is telephone port 1.

Command Mode

Interface configuration

Usage Guidelines

You must specify this command when creating a dial peer. This command will not work if it is not specified within the context of a dial peer. For information on creating a dial peer, refer to the *Cisco 800 Series Routers Software Configuration Guide*.

Example

The following example specifies that an incoming voice call is routed to telephone port 2:

```
router (config-dial-peer)# port 2
```

Related Commands

destination-pattern
dial-peer voice pots
no call-waiting
ring
show dial-peer voice

pots country

Use the **pots country** global configuration command to configure your connected telephones, fax machines, or modems to use country-specific default settings for each physical characteristic. Use the **no** form of this command to disable the use of country-specific default settings for each physical characteristic.

pots country *country*
no pots country *country*

Syntax Description

country	Country that your router is in. Enter the **pots country ?** command to get a list of supported countries and the code you must enter to indicate a particular country.

Default

A default country is not defined.

Command Mode

Global configuration

Usage Guidelines

If you need to change a country-specific default setting of a physical characteristic, you can use the associated command listed in the "Related Commands" section.

Example

The following example specifies that the devices connected to the telephone ports use default settings specific to Germany for the physical characteristics:

```
router (config)# pots country de
```

Related Commands

pots dialing-method
pots disconnect-supervision
pots disconnect-time
pots distinctive-ring-guard-time
pots encoding
pots line-type
pots ringing-freq
pots silence-time
pots tone-source
show pots status

pots dialing-method

Use the **pots dialing-method** global configuration command to specify how the router collects and transmits digits dialed on your connected telephones, fax machines, or modems. Use the **no** form of this command to disable the specified dialing method.

pots dialing-method {**overlap** | **enblock**}
no pots dialing-method {**overlap** | **enblock**}

Syntax Description

overlap	The router transmits each digit dialed in a separate message.
enblock	The router collects all digits dialed and transmits the digits in one message.

Default

Depends on the setting of the **pots country** command. For more information, refer to the **pots country** command.

Command Mode

Global configuration

Usage Guidelines

To interrupt the collection and transmission of dialed digits, enter a pound sign (#) or stop dialing digits until the interdigit timer runs out (10 seconds).

Example

The following example specifies that the router uses the enblock dialing method:

```
router (config)# pots dialing-method enblock
```

Related Commands

pots country
pots disconnect-supervision
pots disconnect-time
pots distinctive-ring-guard-time
pots encoding
pots line-type
pots ringing-freq
pots silence-time
pots tone-source
show pots status

pots disconnect-supervision

Use the **pots disconnect-supervision** global configuration command to specify how a router notifies the connected telephones, fax machines, or modems when the calling party has disconnected. Use the **no** form of this command to disable the specified disconnect method.

pots disconnect-supervision {**osi** | **reversal**}
no pots disconnect-supervision {**osi** | **reversal**}

Syntax Description

osi	Open switching interval (OSI) is the duration for which DC voltage applied between tip and ring conductors of a telephone port is removed.
reversal	Polarity reversal of tip and ring conductors of a telephone port.

Default

Depends on the setting of the **pots country** command. For more information, refer to the **pots country** command.

Command Mode

Global configuration

Usage Guidelines

Most countries except Japan typically use the **osi** option. Japan typically uses the **reversal** option.

Example

The following example specifies that the router uses the osi disconnect method:

```
router (config)# pots disconnect-supervision osi
```

Related Commands

pots country
pots dialing-method
pots disconnect-time
pots distinctive-ring-guard-time
pots encoding
pots line-type
pots ringing-freq
pots silence-time
pots tone-source
show pots status

pots disconnect-time

Use the **pots disconnect-time** global configuration command to specify the interval in which the disconnect method is applied if your connected telephones, fax machines, or modems fail to detect that a calling party has disconnected. The **pots disconnect-supervision** command configures the disconnect method. For more information, refer to the "**pots disconnect-supervision**" section. Use the **no** form of this command to disable the specified disconnect interval.

pots disconnect-time *interval*
no pots disconnect-time *interval*

Syntax Description

interval Range is from 50 to 2000 milliseconds.

Default

Depends on the setting of the **pots country** command. For more information, refer to the **pots country** command.

Command Mode

Global configuration

Example

The following example specifies that the connected devices apply the configured disconnect method for 100 milliseconds after a calling party disconnects:

```
router (config)# pots disconnect-time 100
```

Related Commands

pots country
pots dialing-method
pots disconnect-supervision
pots distinctive-ring-guard-time
pots encoding
pots line-type
pots ringing-freq
pots silence-time
pots tone-source
show pots status

pots distinctive-ring-guard-time

Use the **pots distinctive-ring-guard-time** global configuration command to specify a delay in which a telephone port can be rung after a previous call is disconnected. Use the **no** form of this command to disable the specified delay.

pots distinctive-ring-guard-time *milliseconds*
no pots distinctive-ring-guard-time *milliseconds*

Syntax Description

milliseconds Range is from 0 to 1000 milliseconds.

Default

Depends on the setting of the **pots country** command. For more information, refer to the **pots country** command.

Command Mode

Global configuration

Example

The following example specifies that a telephone port can be rung 100 milliseconds after a previous call is disconnected:

```
router (config)# pots distinctive-ring-guard-time 100
```

Related Commands

pots country
pots dialing-method
pots disconnect-supervision
pots disconnect-time
pots encoding
pots line-type
pots ringing-freq
pots silence-time
pots tone-source
ring
show pots status

pots encoding

Use the **pots encoding** global configuration command to specify the pulse code modulation (PCM) encoding scheme for your connected telephones, fax machines, or modems. Use the **no** form of this command to disable the specified PCM encoding scheme.

pots encoding {**alaw** | **ulaw**}
no pots encoding {**alaw** | **ulaw**}

Syntax Description

alaw	International Telecommunication Union Telecommunication Standardization Section (ITU-T) PCM encoding scheme used to represent analog voice samples as digital values.
ulaw	North American PCM encoding scheme used to represent analog voice samples as digital values.

Default

Depends on the setting of the **pots country** command. For more information, refer to the **pots country** command.

Command Mode

Global configuration

Usage Guidelines

Europe typically uses the **alaw** option. North America typically uses the **ulaw** option.

Example

The following example specifies alaw as the PCM encoding scheme:

```
router (config)# pots encoding alaw
```

Related Commands

pots country
pots dialing-method
pots disconnect-supervision
pots disconnect-time
pots distinctive-ring-guard-time
pots line-type
pots ringing-freq
pots silence-time
pots tone-source
show pots status

pots line-type

Use the **pots line-type** global configuration command to specify the amount of resistance at which your connected telephones, fax machines, or modems run. Use the **no** form of this command to disable the specified line type.

pots line-type {**type1** | **type2** | **type3**}
no pots line-type {**type1** | **type2** | **type3**}

Syntax Description

type1	Runs at 600 ohms.
type2	Runs at 900 ohms.
type3	Runs at 300/400 ohms.

Default

Depends on the setting of the **pots country** command. For more information, refer to the **pots country** command.

Command Mode

Global configuration

Example

The following example specifies type1 as the line type:

```
router (config)# pots line-type type1
```

Related Commands

pots country
pots dialing-method
pots disconnect-supervision
pots disconnect-time
pots distinctive-ring-guard-time
pots encoding
pots ringing-freq
pots silence-time
pots tone-source
show pots status

pots ringing-freq

Use the **pots ringing-freq** global configuration command to specify the frequency at which your connected telephones, fax machines, or modems ring. Use the **no** form of this command to disable the specified ringing frequency.

pots ringing-freq {**20Hz | 25Hz | 50Hz**}
no pots ringing-freq {**20Hz | 25Hz | 50Hz**}

Syntax Description

20Hz	Connected devices ring at 20 Hz.
25Hz	Connected devices ring at 25 Hz.
50Hz	Connected devices ring at 50 Hz.

Default

Depends on the setting of the **pots country** command. For more information, refer to the **pots country** command.

Command Mode

Global configuration

Example

The following example specifies a ringing frequency of 50 Hz:

```
router (config)# pots ringing-freq 50Hz
```

Related Commands

pots country
pots dialing-method
pots disconnect-supervision
pots disconnect-time
pots distinctive-ring-guard-time
pots encoding
pots line-type
pots silence-time
pots tone-source
show pots status

pots silence-time

Use the **pots silence-time** global configuration command to specify the interval of silence after a calling party disconnects. Use the **no** form of this command to disable the specified silence time.

pots silence-time *interval*
no pots silence-time *interval*

Syntax Description

interval	Range is 0 to 10 seconds.

Default

Depends on the setting of the **pots country** command. For more information, refer to the **pots country** command.

Command Mode

Global configuration

Example

The following example specifies 10 seconds as the interval of silence:

```
router (config)# pots silence-time 10
```

Related Commands

pots country
pots dialing-method
pots disconnect-supervision
pots disconnect-time
pots distinctive-ring-guard-time
pots encoding
pots line-type
pots ringing-freq
pots tone-source
show pots status

pots tone-source

Use the **pots tone-source** global configuration command to specify the source of dial, ringback, and busy tones for your connected telephones, fax machines, or modems. Use the **no** form of this command to disable the specified tone source.

pots tone-source {**local** | **remote**}
no pots tone-source {**local** | **remote**}

Syntax Description

local	Router supplies the tones.
remote	Telephone switch supplies the tones.

Default

The default setting is **local**.

Command Mode

Global configuration

Usage Guidelines

This command applies only to ISDN lines connected to a EURO-ISDN (NET3) switch.

Example

The following example specifies **remote** as the tone source:

```
router (config)# pots tone-source remote
```

Related Commands

pots country
pots dialing-method
pots disconnect-supervision
pots disconnect-time
pots distinctive-ring-guard-time
pots encoding
pots line-type
pots ringing-freq
pots silence-time
show pots status

ring

Use the **ring** interface configuration command to set up a distinctive ring for your connected telephones, fax machines, or modems. Use the **no** form of this command to disable the specified distinctive ring.

ring *cadence-number*
no ring *cadence-number*

Syntax Description

cadence-number Number from 0 through 2:

- Type 0 is a primary ringing cadence—default ringing cadence for country your router is in.
- Type 1 is a distinctive ring—0.8 seconds on, 0.4 seconds off, 0.8 seconds on, 0.4 seconds off.
- Type 2 is a distinctive ring—0.4 seconds on, 0.2 seconds off, 0.4 seconds on, 0.2 seconds off, 0.8 seconds on, 4 seconds off.

Default

The default is 0.

Command Mode

Interface configuration

Usage Guidelines

You can specify this command when creating a dial peer. This command will not work if it is not specified within the context of a dial peer. For information on creating a dial peer, refer to the *Cisco 800 Series Routers Software Configuration Guide*.

Example

The following example specifies the type 1 distinctive ring:

```
router (config-dial-peer)# ring 1
```

Related Commands

destination-pattern
dial-peer voice pots
no call-waiting
port
pots distinctive-ring-guard-time
ring
show dial-peer voice

show dial-peer voice

Use the **show dial-peer voice** privileged EXEC command to display the dial-peer configurations.

show dial-peer voice [*tag*]

Syntax Description

tag	(Optional) Tag number of a dial peer that you created by using the **dial-peer voice** command.

Command Mode

Privileged EXEC

Usage Guidelines

The **show dial-peer voice** command displays all configured dial peers.

Sample Display

The following is a sample output from the **show dial-peer voice** command. Table 1 describes the fields in this output.

```
router# show dial-peer voice
VoiceEncapPeer1
        tag = 1
        destination-pattern = '5551111'
        voice-port = 1
        ring cadence = 0
        call-waiting disabled
VoiceEncapPeer2
        tag = 2
        destination-pattern = '5552222'
        voice-port = 2
        ring cadence = 0
        call-waiting disabled
```

Table 1 Show Dial-Peer Voice Field Descriptions

Field	Descriptions
VoiceEncapPeer	Dial peer number. Indented fields that follow this one are associated with this particular dial peer.
tag	Tag number associated with this dial peer.
destination-pattern	Local ISDN directory number associated with this dial peer.
voice-port	Telephone port number associated with this dial peer.
ring cadence	Ring cadence number associated with this dial peer.
call-waiting	Status of call-waiting feature. Call-waiting indicates that the feature is enabled. No call-waiting indicates that the feature is disabled.

Related Commands

destination-pattern
dial-peer voice pots
no call-waiting
port
ring

show pots status

Use the **show pots status** global configuration command to display the settings of the telephone port physical characteristics as well as other information on the telephone interfaces.

show pots status [**1** | **2**]

Syntax Description

1 (Optional) Display the settings of telephone port 1.

2 (Optional) Display the settings of telephone port 2.

Command Mode

Global configuration

Usage Guidelines

The **show pots status** command displays the settings and information for both telephone ports.

Sample Display

The following is a sample output from the **show pots status** command. Table 2 describes the fields in this output.

```
router (config)# show pots status
POTS Global Configuration:
   Country: United States
   Dialing Method: Overlap, Tone Source: Remote, CallerId Support: YES
   Line Type: 600 ohm, PCM Encoding: u-law, Disc Type: OSI,
   Ringing Frequency: 20Hz, Distinctive Ring Guard timer: 0 msec
   Disconnect timer: 1000 msec, Disconnect Silence timer: 5 sec
   TX Gain: 6dB, RX Loss: -6dB,
   Filter Mask: 6F
   Adaptive Cntrl Mask: 0
POTS PORT: 1
   Hook Switch Finite State Machine:
      State: On Hook, Event: 0
      Hook Switch Register: 10, Suspend Poll: 0
   CODEC Finite State Machine:
      State: Idle, Event: 0
      Connection: None, Call Type: Two Party, Direction: Rx only
      Line Type: 600 ohm, PCM Encoding: u-law, Disc Type: OSI,
      Ringing Frequency: 20Hz, Distinctive Ring Guard timer: 0 msec
      Disconnect timer: 1000 msec, Disconnect Silence timer: 5 sec
      TX Gain: 6dB, RX Loss: -6dB,
      Filter Mask: 6F
      Adaptive Cntrl Mask: 0
   CODEC Registers:
      SPI Addr: 2, DSLAC Revision: 4
      SLIC Cmd: 0D, TX TS: 00, RX TS: 00
      Op Fn: 6F, Op Fn2: 00, Op Cond: 00
      AISN: 6D, ELT: B5, EPG: 32 52 00 00
      SLIC Pin Direction: 1F
```

```
   CODEC Coefficients:
      GX: A0 00
      GR: 3A A1
       Z: EA 23 2A 35 A5 9F C2 AD 3A AE 22 46 C2 F0
       B: 29 FA 8F 2A CB A9 23 92 2B 49 F5 37 1D 01
       X: AB 40 3B 9F A8 7E 22 97 36 A6 2A AE
       R: 01 11 01 90 01 90 01 90 01 90 01 90
      GZ: 60
     ADAPT B: 91 B2 8F 62 31
   CSM Finite State Machine:
      Call 0 - State: idle, Call Id: 0x0
               Active: no
      Call 1 - State: idle, Call Id: 0x0
               Active: no
      Call 2 - State: idle, Call Id: 0x0
               Active: no
POTS PORT: 2
   Hook Switch Finite State Machine:
      State: On Hook, Event: 0
      Hook Switch Register: 20, Suspend Poll: 0
   CODEC Finite State Machine:
      State: Idle, Event: 0
      Connection: None, Call Type: Two Party, Direction: Rx only
      Line Type: 600 ohm, PCM Encoding: u-law, Disc Type: OSI,
      Ringing Frequency: 20Hz, Distinctive Ring Guard timer: 0 msec
      Disconnect timer: 1000 msec, Disconnect Silence timer: 5 sec
      TX Gain: 6dB, RX Loss: -6dB,
      Filter Mask: 6F
      Adaptive Cntrl Mask: 0
   CODEC Registers:
      SPI Addr: 3, DSLAC Revision: 4
      SLIC Cmd: 0D, TX TS: 00, RX TS: 00
      Op Fn: 6F, Op Fn2: 00, Op Cond: 00
      AISN: 6D, ELT: B5, EPG: 32 52 00 00
      SLIC Pin Direction: 1F
   CODEC Coefficients:
      GX: A0 00
      GR: 3A A1
       Z: EA 23 2A 35 A5 9F C2 AD 3A AE 22 46 C2 F0
       B: 29 FA 8F 2A CB A9 23 92 2B 49 F5 37 1D 01
       X: AB 40 3B 9F A8 7E 22 97 36 A6 2A AE
       R: 01 11 01 90 01 90 01 90 01 90 01 90
      GZ: 60
     ADAPT B: 91 B2 8F 62 31
   CSM Finite State Machine:
      Call 0 - State: idle, Call Id: 0x0
               Active: no
      Call 1 - State: idle, Call Id: 0x0
               Active: no
      Call 2 - State: idle, Call Id: 0x0
               Active: no
Time Slot Control: 0
```

Table 2 Show Pots Status Field Descriptions

Field	Descriptions
POTS Global Configuration	Displays the settings of the telephone port physical characteristic commands. Also displays the following: • TX GAIN—Current transmit gain of telephone ports. • RX LOSS—Current transmit loss of telephone ports. • Filter Mask—Value determines which filters are currently enabled or disabled in the telephone port hardware. • Adaptive Cntrl Mask—Value determines if telephone port adaptive line impedance hardware is enabled or disabled.
Hook Switch Finite State Machine	Device driver that tracks state of telephone port hook switch.
CODEC Finite State Machine	Device driver that controls telephone port CODEC hardware.
CODEC Registers	Register contents of telephone port CODEC hardware.
CODEC Coefficients	CODEC coefficients selected by telephone port driver. Selected line type determines CODEC coefficients.
CSM Finite State Machine	State of call-switching module software (CSM).
Time Slot Control	Register that determines if telephone port voice or data packets are transmitted to an ISDN B channel.

Related Commands

pots country
pots dialing-method
pots disconnect-supervision
pots disconnect-time
pots distinctive-ring-guard-time
pots encoding
pots line-type
pots ringing-freq
pots silence-time
pots tone-source

Debug Command

This section documents the new **debug pots** command. The Cisco IOS Release 12.0 debug command references document all other debug commands used with this feature.

debug pots

Use the **debug pots** privileged EXEC command to display information on the telephone interfaces. Use the **no** form of this command to disable debugging output.

debug pots {**driver** | **csm**} [**1** | **2**]
no debug pots {**driver** | **csm**} [**1** | **2**]

Syntax Description

driver	Display driver debug information.
csm	Display CSM debug information.
1	(Optional) Display information for telephone port 1 only.
2	(Optional) Display information for telephone port 2 only.

Command Mode

Privileged EXEC

Usage Guidelines

The **debug pots** command displays driver and CSM debug information for telephone ports 1 and 2.

Sample Displays

The following is sample display from the **debug pots driver 1** command. This sample display indicates that the telephone port driver is not receiving caller ID information from the ISDN line. Therefore, the analog caller ID device attached to the telephone port does not display caller ID information.

```
router# debug pots driver 1
00:01:51:POTS DRIVER port=1 activate ringer: cadence=0 callerId=Unknown
00:01:51:POTS DRIVER port=1 state=Idle drv_event=RING_EVENT
00:01:51:POTS DRIVER port=1 enter_ringing
00:01:51:POTS DRIVER port=1 cmd=19
00:01:51:POTS DRIVER port=1 activate disconnect
00:01:51:POTS DRIVER port=1 state=Ringing drv_event=DISCONNECT_EVENT
00:01:51:POTS DRIVER port=1 cmd=1A
00:01:51:POTS DRIVER port=1 enter_idle
00:01:51:POTS DRIVER port=1 ts connect: 0 0
00:01:51:POTS DRIVER port=1 cmd=D
00:01:51:POTS DRIVER port=1 report onhook
00:01:51:POTS DRIVER port=1 activate tone=SILENCE_TONE
00:01:51:POTS DRIVER port=1 state=Idle drv_event=TONE_EVENT
00:01:51:POTS DRIVER port=1 activate tone=SILENCE_TONE
00:01:51:POTS DRIVER port=1 state=Idle drv_event=TONE_EVENT
00:01:53:POTS DRIVER port=1 activate ringer: cadence=0 callerId=Unknown
00:01:53:POTS DRIVER port=1 state=Idle drv_event=RING_EVENT
00:01:53:POTS DRIVER port=1 enter_ringing
00:01:53:POTS DRIVER port=1 cmd=19
00:01:55:POTS DRIVER port=1 cmd=1A
00:02:49:POTS DRIVER port=1 state=Ringing drv_event=OFFHOOK_EVENT
00:02:49:POTS DRIVER port=1 cmd=1A
00:02:49:POTS DRIVER port=1 enter_suspend
00:02:49:POTS DRIVER port=1 cmd=A
00:02:49:POTS DRIVER port=1 report offhook
00:02:49:POTS DRIVER port=1 activate connect: endpt=1 calltype=TWO_PARTY_CALL
00:02:49:POTS DRIVER port=1 state=Suspend drv_event=CONNECT_EVENT
00:02:49:POTS DRIVER port=1 enter_connect: endpt=1 calltype=0
00:02:49:POTS DRIVER port=1 cmd=A
00:02:49:POTS DRIVER port=1 ts connect: 1 0
00:02:49:POTS DRIVER port=1 activate connect: endpt=1 calltype=TWO_PARTY_CALL
00:02:49:POTS DRIVER port=1 state=Connect drv_event=CONNECT_EVENT
00:02:49:POTS DRIVER port=1 enter_connect: endpt=1 calltype=0
00:02:49:POTS DRIVER port=1 cmd=A
00:02:49:POTS DRIVER port=1 ts connect: 1 0
00:02:55:POTS DRIVER port=1 state=Connect drv_event=ONHOOK_EVENT
00:02:55:POTS DRIVER port=1 enter_idle
00:02:55:POTS DRIVER port=1 ts connect: 0 0
00:02:55:POTS DRIVER port=1 cmd=D
00:02:55:POTS DRIVER port=1 report onhook
00:02:55:POTS DRIVER port=1 activate tone=SILENCE_TONE
00:02:55:POTS DRIVER port=1 state=Idle drv_event=TONE_EVENT
00:02:55:POTS DRIVER port=1 activate tone=SILENCE_TONE
00:02:55:POTS DRIVER port=1 state=Idle drv_event=TONE_EVENT
```

The following is sample display from the **debug pots csm 1** command. This sample display indicates that a dial peer contains an invalid destination pattern (555-1111).

```
router# debug pots csm 1
01:57:28:EVENT_FROM_ISDN:dchanidb=0x66CB38, call_id=0x11, ces=0x2 bchan=0x0, event=0x1,
cause=0x0
01:57:28:Dial peer not found, route call to port 1
01:57:28:CSM_PROC_IDLE:CSM_EVENT_ISDN_CALL, call_id=0x11, port=1
01:57:28:Calling number '5551111'
01:57:40:CSM_PROC_RINGING:CSM_EVENT_VDEV_OFFHOOK, call_id=0x11, port=1
01:57:40:EVENT_FROM_ISDN:dchan_idb=0x66CB38, call_id=0x11, ces=0x2 bchan=0x0,
event=0x4, cause=0x0
01:57:40:CSM_PROC_CONNECTING:CSM_EVENT_ISDN_CONNECTED, call_id=0x11, port=1
01:57:47:CSM_PROC_CONNECTING:CSM_EVENT_VDEV_ONHOOK, call_id=0x11, port=1
01:57:201863503872: %ISDN-6-DISCONNECT:Interface BRI0:1 disconnected from unknown, call
lasted 5485 seconds
01:57:47: %ISDN-6-DISCONNECT:Interface BRI0:1 disconnected from unknown, call lasted
5485 seconds
01:57:47:EVENT_FROM_ISDN:dchan _idb=0x66CB38, call_id=0x11, ces=0x2 bchan=0xFFFFFFFF,
event=0x0, cause=0x1
01:57:47:CSM_PROC_NEAR_END_DISCONNECT:CSM_EVENT_ISDN_DISCONNECTED, call_id=0x11, port=1
```